



# How Thermal Energy Meters Reduce Costs at University Campuses

The cooling and heating of a university campus is one of the primary areas where better energy management, including improved efficiency and energy reduction, brings some of the highest returns.

Every university to some extent is now engaged in this process, and one of the first things that has to be addressed is the metering of distributed thermal energy. To effectively begin energy reduction initiatives, accurate and reliable thermal energy metering has to be in place.



## Sustainability, Energy Efficiency, Green Energy at University Campuses



Today, we have a more conscious understanding that we need to be better stewards of energy consumption. Poor energy consumption harms our environment and creates much higher operating costs. Universities have become very involved in the move toward greener energy. Many universities began metering long ago while some are just beginning. Most are in the middle of the process.

There are many different types of meters, and often, many of these choices turn out to be unreliable. In order to achieve real accountability for energy usage at campus buildings, energy managers at leading universities are applying a “utility model.” In the utility model, building managers responsible for campus buildings are billed at utility grade costs for the thermal energy consumed. This creates an environment where focus falls to thermal energy conservation. It’s also vital that inefficiencies are identified and corrected through metering.

## You can't manage what you don't measure!

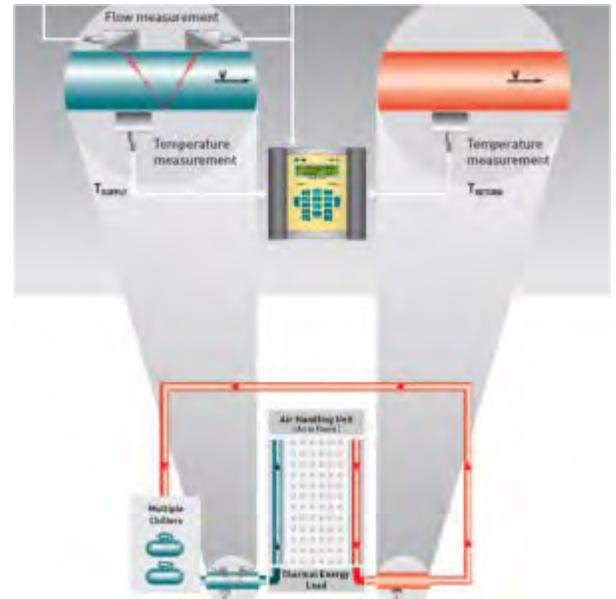
Many universities have gone through an evolution of trying to meter thermal energy consumption throughout their campus. The success of these ventures can be elusive when the meter chosen for the job doesn't live up to expectations. Examples include insertion meters that over time will foul and meters that cannot respond to low velocities that are prevalent during off-peak metering.

### FLEXIM's Thermal Energy / BTU Flow Meter Trusted by 150+ Universities

FLEXIM's Thermal Energy / BTU Flow Meter is the premier offering in the market today. FLEXIM ultrasonic clamp-on meters do not require shutdown and are very cost effective to install. In fact, clamp-on ultrasonic meters have been doing the job of BTU-metering for decades.

FLEXIM's thermal energy meters support your efforts towards more energy efficient buildings and facilities.

More than 150 colleges and universities throughout the country have trusted FLEXIM as their preferred vendor for thermal energy meters. Every university we deal with will attest to FLEXIM's performance, reliability and support.



### Ivy League University Installs FLEXIM Thermal Energy Meters

A great example is the installation at one of the most renowned Ivy League Universities. This University has been using the utility model for many years now.

#### Challenge

Previously, building managers complained that billing during cold months was not correct. Meters did not pick up the low chilled water velocities on an undergraduate campus that included 85 buildings.

#### Solution

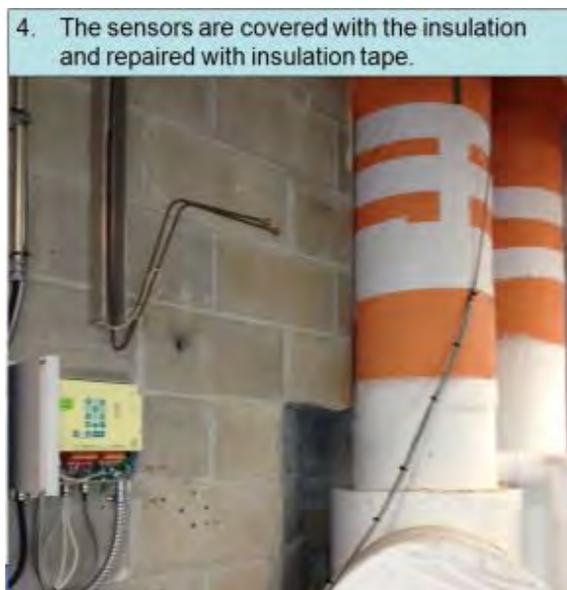
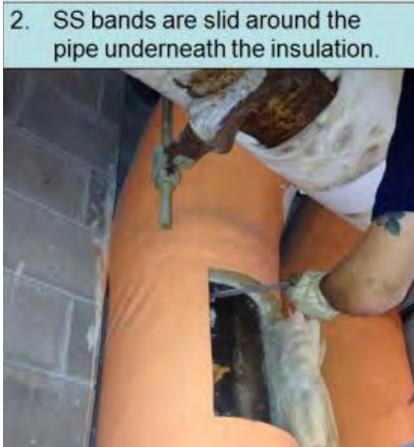
We installed the initial 65 meters in a 6-week time period. FLEXIM meters have now been metering usage for low Chilled Water velocities since 2009 and they have been maintenance free. This has yielded tremendous cost savings and return on investment.

**Contact us today to discuss how FLEXIM can reduce energy usage and promote sustainability goals on your campus**

We would love to show you how we can help you achieve your goal of accurate, reliable, and cost effective campus thermal energy metering. Please contact us for a meeting / presentation / lunch & learn / short chat, or just about anything you have time for. We are positive that you will, at a minimum, learn more about the pros and cons of thermal energy metering.

### More Information on Metering

The images below show the installation of a thermal energy meter. Installation can be done in approximately 4 hours.



5. The complete installation takes ~4 hours. This includes wiring and programming the BTU meter. A feature of Flexim BTU metering is the ultra low flow velocities that the meter accurately picks up. The meter just installed shows velocities down to 0.023 ft/sec.

	DATE_TIME	VELOC	MEASURE	Q_POS	Q_NEG	FQ_POS	FQ_NEG	T3	T4	SSPEED	AMP	QUAL	VOLUMEFLOW
		[fps]	[kBTU/h]	[kBT]	[kBT]	[gal]	[gal]	[°F]	[°F]	[m/s]	[%]	[%]	[US-gal/min]
49	6/27/2013 12:18:22 PM	0.023	442.56	+9.24	-0.00	+9.90	-0.06	221.00	340.34	1384.83	55	100	8.07
50	6/27/2013 12:18:23 PM	0.030	568.12	+9.41	-0.00	+10.07	-0.06	221.18	340.34	1384.83	55	100	10.37
51	6/27/2013 12:18:24 PM	0.030	568.12	+9.41	-0.00	+10.07	-0.06	221.18	340.34	1384.83	55	100	10.37
52	6/27/2013 12:18:25 PM	0.030	568.12	+9.41	-0.00	+10.07	-0.06	221.18	340.34	1384.83	55	100	10.37
53	6/27/2013 12:18:26 PM	0.036	694.37	+9.44	-0.00	+10.11	-0.06	221.18	340.34	1384.80	55	100	12.68
54	6/27/2013 12:18:27 PM	0.056	1073.12	+10.92	-0.00	+11.75	-0.06	221.18	340.34	1384.80	55	100	19.60
55	6/27/2013 12:18:28 PM	0.056	1071.05	+10.95	-0.00	+11.79	-0.06	221.54	340.34	1384.80	55	100	19.60
56	6/27/2013 12:18:29 PM	0.056	1071.05	+10.95	-0.00	+11.79	-0.06	221.54	340.34	1384.80	55	100	19.60
57	6/27/2013 12:18:30 PM	0.056	1071.05	+10.95	-0.00	+11.79	-0.06	221.54	340.34	1384.80	55	100	19.60
58	6/27/2013 12:18:31 PM	0.069	1323.06	+12.58	-0.00	+13.55	-0.06	221.54	340.34	1384.76	55	100	24.21
59	6/27/2013 12:18:32 PM	0.069	1323.06	+12.58	-0.00	+13.55	-0.06	221.54	340.34	1384.76	55	100	24.21
60	6/27/2013 12:18:33 PM	0.069	1323.06	+12.58	-0.00	+13.55	-0.06	221.54	340.34	1384.76	55	100	24.21
61	6/27/2013 12:18:34 PM	0.069	1323.06	+12.58	-0.00	+13.55	-0.06	221.54	340.34	1384.76	55	100	24.21
62	6/27/2013 12:18:35 PM	0.069	1323.06	+12.58	-0.00	+13.55	-0.06	221.54	340.34	1384.76	55	100	24.21
63	6/27/2013 12:18:36 PM	0.069	1323.06	+12.58	-0.00	+13.55	-0.06	221.54	340.34	1384.76	55	100	24.21
64	6/27/2013 12:18:37 PM	0.075	1428.99	+15.08	-0.00	+16.27	-0.06	223.16	340.34	1384.71	55	100	26.51
65	6/27/2013 12:18:38 PM	0.075	1428.98	+15.11	-0.00	+16.32	-0.06	223.16	340.34	1384.71	55	100	26.51
66	6/27/2013 12:18:39 PM	0.075	1428.98	+15.11	-0.00	+16.32	-0.06	223.16	340.34	1384.71	55	100	26.51

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